

**EASTSIDE UTILITY DISTRICT
MUNICIPAL WATERWORKS**

P.O. BOX 22037
7206 LEE HIGHWAY, N.E.

CHATTANOOGA, TENNESSEE 37422
PHONE 892-2890
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EWTP000002

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May 15, 2012

Mr. Jim M^cAdoo
Tennessee Department of Environment and Conservation
Division of Water Pollution Control
6th Floor, 401 Church St
Nashville, TN 37243-1549

RE: Inter-basin Transfer Renewal Permit - 2012

Dear Mr. M^cAdoo:

Please consider this application for the renewal of the Inter-basin Transfer Permit for Eastside Utility District.

Sincerely,



Donald R. Stafford
General Manager

RECEIVED

CHATTANOOGA, TENNESSEE
MAY 16 2012

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INTER BASIN TRANSFER RENEWAL APPLICATION

- a. The volume of proposed withdrawal and the proposed transfer stated in gallons per day that the applicant seeks to be authorized;

The proposed permit will be for 5 million gallons per day. Ocoee Utility and Dalton Utilities will be the major recipients of the transferred water.

- b. Identification of all of the withdrawal, return, and transfer points.

The withdrawal point is Eastside Utility's river intake (see Map #1). It is located behind the Booker T. Washington State Park on Champion Road in Chattanooga.

For the Ocoee Utility District, there will be three transfer points (see Map #2), all of which are six-inch meters. The first on Mitchell Road is approximately 500 feet east of State Highway 60 (Dalton Pike); the second at the intersection of Dalton Pike and Johnson Road; and the last is on Dalton Pike approximately 650 feet north of Hungry Hollow Road. These locations will transfer water from the Lower Tennessee River Basin into the Conasauga River Basin. None of it is expected to return to its basin of origin.

Dalton Utilities has one transfer point located on Dalton Pike on the Tennessee/Georgia border. It is an eight-inch meter. All the water passing through this point is expected to stay in the Conasauga River Basin.

- c. The volume of water that will be returned to the basin of origin or a downstream basin:

The water sold to neither Ocoee Utility (0.5 MGD) nor Dalton Utilities (3 MGD) is expected to return to its river basin of origin.

- d. The peak capacity of each major component in the proposed withdrawal and transfer facilities;

The peak withdrawal capacity is dictated by the current configuration of Eastside's filtration plant. This capacity stands at a maximum of 32 MGD. No changes will be necessary at the filtration plant to accommodate the water needed for the transfer.

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For Ocoee, the peak capacity of transferred water is 0.5 MGD. Dalton Utilities is allocated 3 MGD. The requested amount of 5 MGD is merely a precautionary measure to allow for any unexpected high demands that may occur during a time of drought.

- e. Engineering and economic justification for the capacity of each major component of the proposed withdrawal and transfer facilities;

The water being transferred comes from Eastside's river intake located north of the Chickamauga Dam on the Tennessee River. It is pumped to the filtration plant and there made ready for human consumption. High service pumps located in the finished water building outside the filtration plant then send the water into the distribution system. It will be delivered to the transfer points through a series of pipes ranging in size from six to thirty inches. The water may also pass through several tanks along its route. However, there will be no changes necessary at the filtration plant to deliver the water to the transfer points.

A 2.2 million gallon tank located just inside Bradley County on State Highway 317 (Weatherly Switch) is where the majority of the transferred water will originate. A sixteen-inch main runs from the tank along Weatherly Switch to State Highway 60 (Dalton Pike) then south to the Tennessee/Georgia border where the Dalton Utilities' meter is. Two Ocoee Utility meters are located on Dalton Pike while the third is approximately 500 feet east of it.

- f. An assessment of the hydraulic and environmental impacts of the withdrawal on the losing river;

Eastside Utility presently has a withdrawal permit for the water taken from the Tennessee River. The transferred water will still be covered within the boundaries of the current permit. The hydraulic and environmental impacts on the Tennessee River must have been sufficiently addressed during the prior application process.

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- g. An engineering, environmental, and economic assessment of the feasibility of utilizing alternate water sources by the water system in the receiving basin;

The option of purchasing water from Eastside Utility District has been chosen as the Ocoee Utility District's best option to supplement the current water supplies due to economic and operational feasibility. The Ocoee Utility District will continue to utilize the Wildwood Springs Water Treatment Plant as the primary water source for its customers in the Conasauga River Basin. A backup connection with Cleveland Utilities is available at the Wildwood Springs Water Treatment Plant. However, the Cleveland Utilities connection is inferior to the Eastside connections due to the following reasons:

- 1. It requires the Wildwood Springs Water Treatment Plant's high service pumps to distribute the water purchased from Cleveland Utilities. This limits the water available due to the capacity of the pumps and the spring flow at any given time. The pumps are designed to pump less than the peak flows for the Wildwood Springs, so in most cases the extra available water would not benefit the distribution system to any appreciable degree.*
- 2. The water is not as easily distributed to the southern portion of Bradley County. In the case of an emergency, conversely, the Eastside connections will be available in the area most likely to need water from another water source.*
- 3. Economically, the Eastside connections are the best options for the Ocoee Utility District's customers. The rate of purchase – \$1.20 per thousand gallons – is much more feasible than the \$1.51 per thousand gallons rate charged by Cleveland Utilities. This rate difference translates into a monthly savings of \$1271.00 at 100,000 gallons per day and \$6,355.00 at the maximum of 500,000 gallons per day. The Eastside connections will not require additional pumpage to serve the Ocoee Utility District's distribution system, which will result in the District lowering its overall electrical usage. It will also eliminate the cost associated with purchasing water from Cleveland Utilities.*

Dalton Utilities performed a yield analysis on existing water sources in August 2005. Based on this analysis, Dalton Utilities has maximized the raw water withdrawal capability from existing raw water sources.

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Current permits restrict the withdrawal of water when streamflow levels fall below predetermined values, and future permits will further restrict the withdrawal of water from existing sources when the streamflow levels fall below the 7Q10 average. The finished water provided by Eastside Utility since 2002 is the best source for current and future customers in North Whitfield County from an engineering, economic and environmental perspective. This source is necessary for Dalton Utilities to continue to provide public water to all the customers in Dalton Utilities' service area which is comprised of the City of Dalton, Whitfield County, and portions of Murray, Gordon, and Catoosa Counties.

- h. A listing of conservation programs or practices occurring or proposed of the system in the receiving basin.

The Ocoee Utility District has implemented several programs to encourage water conservation among its customers. It has in place a progressively tiered rate structure for water usage instead of a tiered system with decreasing rates as a customer uses more water. This structure does not discount water to customers who use large amounts, thus promoting conservation. Ocoee also encourages conservation through customer awareness mailings, reminders on its water bills, and materials available at its office.

Dalton Utilities currently has a Water Conservation and Drought Contingency Plan that details water conservation measures including, but not limited to, a water loss reduction program, leak detection and elimination program, storage tank overflow detection system, flushing program, unauthorized water usage restrictions, and continuous meter maintenance, testing, and calibration program. In addition, the Drought Contingency Plan outlines the measures that are initiated in times of drought or low streamflow conditions.

Dalton Utilities continues to maintain its drought hotline so that customers can update themselves on water conservation measures and restrictions currently in place. Dalton Utilities provides water conservation information and tips to customers in a newsletter, the Infoline, with customer bills, and on our website at www.dutil.com. Dalton Utilities currently has water conservation gardening tips and drought resistant planting recommendations on their website. Additionally, Dalton Utilities has developed a water conservation program called "I'm In The Know About H2O" in which they have partnered with the Whitfield County Schools and Dalton Public Schools to educate all area 3rd or 4th grade students

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about the importance of water conservation and preservation of drinking water sources. To date more than 3,000 students have been through the program.

Dalton Utilities has an ongoing water distribution rehabilitation program to reduce leaks and the associated maintenance costs. Information about leaks and the location of the leaks is tracked using a database. For each leak, the location, type of leak, pipe material, condition of the pipe, and other general information is recorded. As a preventative mechanism, information from the leak database and general data on the age and condition of different areas of the distribution system is utilized in establishing a capital budget each year to address aging water lines or lines originally constructed from materials that have shown a tendency to leak. In addition, Dalton Utilities has established an active leak detection program. This program will evaluate the entire system over a 10 year period and prioritize leak repairs for leaks which have not otherwise surfaced.

Additionally, Dalton Utilities monitors usage through the billing system. If abnormally high usage occurs, the cause is investigated to ensure that the meter is working properly and that there is not a leak. Further, Dalton Utilities Supervisory Control and Data Acquisition (SCADA) system is instrumental in identifying leaks in remote areas through changes in pump pressure and water tank levels. Dalton Utilities also investigates reports of unexplained surface water. Our laboratory personnel analyze the surface water for chlorine and fluoride to determine if the surface water is from a leak. All water leaks are repaired immediately and the estimated volume of water unbilled due to leaks is tracked to help in the evaluation of the unaccounted for water for the system.

In 2006, Dalton Utilities implemented the American Water Works Association's (AWWA) water audit software as an evaluation tool for non-revenue water monitoring. Audits have been conducted annually since this time and results are being used to identify apparent and real losses to help reduce non-revenue water. Dalton Utilities has been part of the AWWA pilot group testing the latest updates to the software and evaluating how to improve data collection and tracking since 2006.

Further, Dalton Utilities uses its full system water model for system pressure management among other functions. Based on modeling results, pressure reducing valve stations are incorporated into the distribution system in key locations to reduce distribution system leakage rates and water main and service failures while still providing appropriate service pressures.

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Dalton Utilities continues its program to replace all residential water meters within the system as well as its maintenance, testing, and calibration plan to ensure that all system meters are properly tested, calibrated or replaced in accordance with manufactures recommendations. All revenue meters, including residential meters, are on a 10 year replacement/calibration schedule. Meter replacement is prioritized by area and also by using the billing system.

Dalton Utilities maintains an active water flushing program to ensure that customers receive quality, safe drinking water. In 2007, Dalton Utilities installed a chlorine booster pump station which successfully reduced the volume of water lost during flushing from 229,325,582 gallons in 2006 to 1,907,950 in 2007, a decrease of approximately 99.2%. Use of chlorine booster stations continues today to minimize losses due to our flushing program.

We routinely monitor all critical aspects of our system regardless of drought status. During periods of drought, Dalton Utilities uses a daily drought update reviewed by our Senior Vice President of Watershed Services and the Chief Executive Officer. This update provides a daily status on the drought triggers and other essential information to assist us in evaluating our system on a daily basis and forecasting when additional measures will be necessary to maintain the overall system.

Inverted block rates continue to be used by Dalton Utilities for all customer classes to provide financial incentive to the customers to conserve water. These rates are reviewed and adjusted as necessary on an annual basis.

In addition to the aforementioned conservation measures, Dalton Utilities partnered with the Georgia Department of Natural Resource Pollution Prevention Assistance Division (P₂AD) to reduce water consumption in the local carpet industries. Through these collective efforts, carpet industries are now using approximately 7 gallons per square yard of carpet produced versus approximately 21 gallons per yard of carpet produced prior to implementing these water conserving programs. Dalton Utilities continues to work with local industry to further reduce water use through programs like Dalton Utilities pretreatment program where industrial users may utilize mass based limits in order to further encourage water conservation measures.

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Dalton Utilities continues its wastewater reuse program for potential industrial users. The first user is a 1240 Megawatt (MW) combined cycle natural gas fired power generation plant which has utilized treated wastewater instead of potable water or surface water from the Conasauga River for cooling since 2002. This reuse project results in up to 13.5 million gallons daily (MGD) of treated wastewater being reused offsetting surface water withdrawals. Dalton Utilities latest 150,000 gallon per day wastewater treatment plant constructed in 2008 is a membrane filtration plant which provides reuse quality water. Dalton Utilities is actively seeking industrial/commercial reuse partners to use this source.

- i. The proposed date upon which the transfer is to commerce;

The transfers occur presently as this is a renewal application.

- j. The purpose and justification for the proposed transfer;

Purchasing water from Eastside Utility District will help Ocoee Utility meet the demands of providing water for a rapidly growing customer base. In addition to the growth in customer base, Ocoee has experienced a growth in the per customer usage of about 7% over the past ten years. This is attributable in great part to the addition of new and/or expansion of existing poultry operations in the system. Nearly 75% of the poultry houses in the distribution system are located in the southwest portion of the Ocoee service area where the Eastside Utility connections are. This portion of the Ocoee distribution system is the most recent one needing service due to the poor well quality. With the exception of the service areas on the fringe of the Cleveland city limits, this is the fastest growing area in the Ocoee Utility District encompassing over 1020 of the 2195 new customers added since 2002. On a county-wide basis, it actually includes 25% of the subdivision lots approved by Bradley County over the past ten years. The Eastside connections will provide the most viable solution for providing water where it is most needed.

Dalton needs the transfer to continue for several reasons. Dalton Utilities made a significant investment in Eastside Utilities system in order to provide the transfer to serve residents in northern Whitfield County that had previously relied on wells of poor quality. The transfer has been in place and occurring now for approximately 10 years and these customers in Northern Whitfield County are

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reliant on this source for safe, economically efficient and reliable drinking water service. Other options, for serving these customers would bring about negative environmental impacts and require new large investments in reservoirs and other infrastructure that could potentially be damaging to the environment. Another reason is to continue to reduce the stress on the much smaller biologically diverse, as compared to the Tennessee River, Conasauga River. And the final reason is to provide water service that is more consistent in terms of supply and pressure and not normally subject to restrictions.